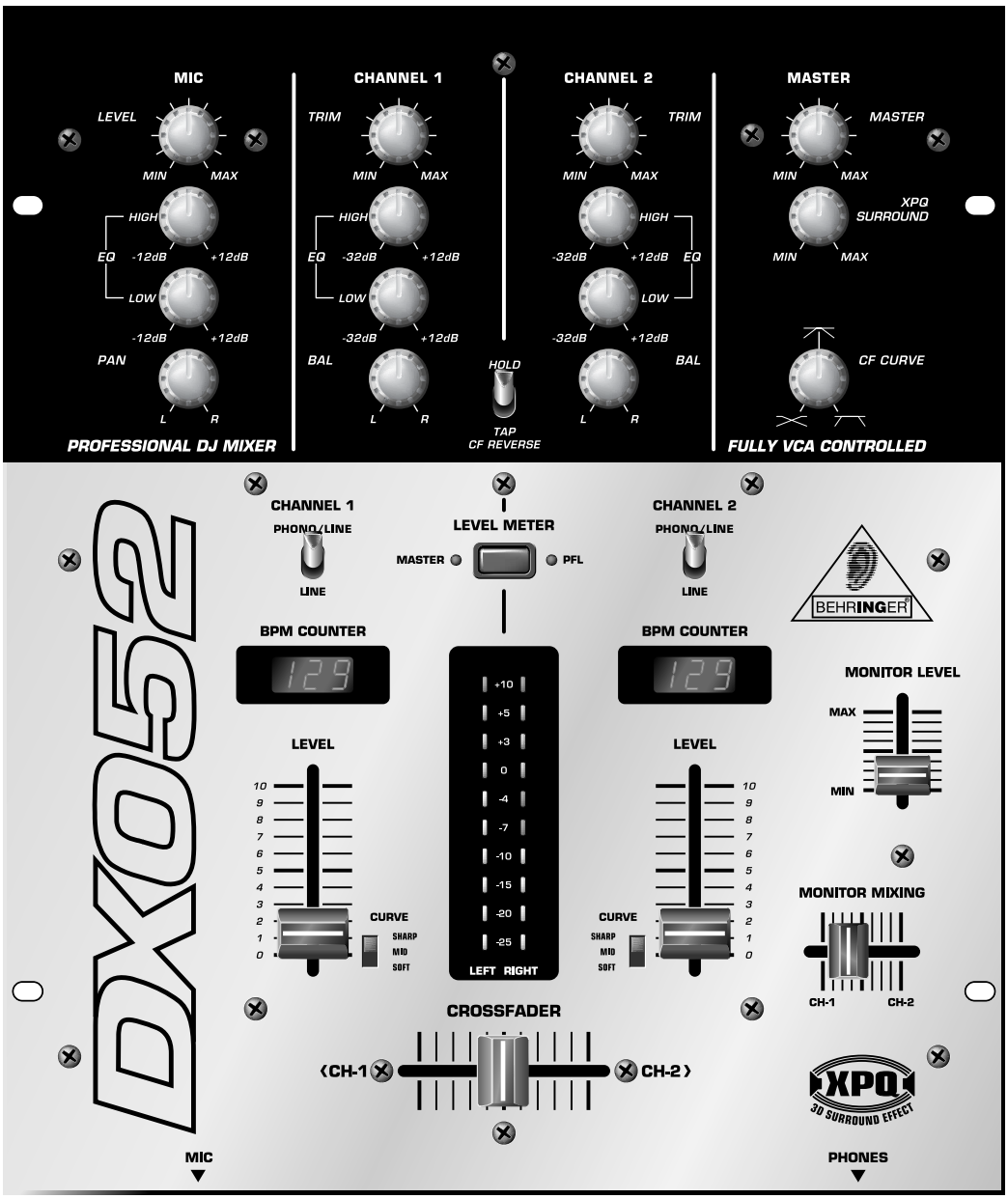
DX052

PRO MIXER

ENGLISH

User's Manual

Version 1.0 March 2003



www.behringer.com

BEHRINGER
JUST LISTEN.

IMPORTANT SAFETY INSTRUCTIONS

CAUTION: To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside; refer servicing to qualified personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure—voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

DETAILED SAFETY INSTRUCTIONS:

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this device near water.

6) Clean only with a dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, extension cords, and the point at which they exit the unit.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the device. When a cart is used, use caution when moving the cart/ device combination to avoid injury from stumbling over it.

13) Unplug this device during lightning storms or when not used for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

PRO MIXER

Professional 2-Channel DJ Mixer with BPM Counter and VCA Faders

- ▲ Professional 2-channel ultra low-noise DJ mixer with additional mic input
- ▲ Intelligent dual auto-BPM counter
- ▲ Super-smooth ULTRAGLIDE faders with up to 500,000 life cycles
- ▲ VCA fader engines for utmost reliability and smooth audio performance
- ▲ Dedicated curve control for all faders
- ▲ Professional crossfader reverse switch
- ▲ Awesome adjustable XPQ stereo surround effect
- ▲ 2-band kill EQ (-32 dB), gain and balance control per channel
- ▲ PFL function with CH-1/CH-2 balance control
- ▲ Precise master/cue level meter with peak hold function
- ▲ 2 dual input stereo channels, 1 ULN microphone channel
- ▲ Dedicated FX loop for connection of external devices (sampler, reverb processor etc.)
- ▲ Gold-plated RCA sockets for excellent audio quality
- ▲ Super-rugged construction ensures long life, even under the most demanding conditions
- ▲ Manufactured under ISO9000 certified management system

DX052

FOREWORD

Dear Customer,

Welcome to the team of PRO MIXER users and thank you very much for expressing your confidence in BEHRINGER products by purchasing the DX052. Writing this foreword for you gives me great pleasure, because it represents the culmination of many months of hard work delivered by our engineering team to achieve a very ambitious goal: to design an excellent DJ mixer offering remarkable functions with the maximum in flexibility and performance. The task of designing our new PRO MIXER certainly meant a great deal of responsibility which we assumed by focusing on you, the discerning user and DJ. Meeting your expectations also meant a lot of work and night shifts. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when everybody who has participated in such a project can be proud of what they've achieved.

It is our philosophy to share our enjoyment with you, because you are the most important member of the BEHRINGER team. With your highly competent suggestions for new products you've made a significant contribution to shaping our company and making it successful. In return, we guarantee you uncompromising quality (manufactured under ISO9000 certified management system) as well as excellent technical and audio properties at an extremely reasonable price. All of this will enable you to give free rein to your creativity without being hampered by budget constraints.

We are often asked how we manage to produce such high-quality devices at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers mean large sales volumes enabling us to get better purchasing terms for components, etc. So it's only fair to pass this benefit on to you, isn't it? Because we know that your success is our success too!

I would like to thank all of those who have made the PRO MIXER possible. You have all made your own personal contributions, from the developers to the many other employees at this company, and to you, the BEHRINGER user.

My friends, it's been worth the effort!

Thank you very much,

Uli Behringer

TABLE OF CONTENTS

1. INTRODUCTION 5

1.1 Before you get started 5
1.1.1 Shipment 5
1.1.2 Initial operation 5
1.1.3 Warranty 5
1.2 The user's manual 5

2. CONTROL ELEMENTS 6

2.1 Stereo channels 1 and 2 6
2.2 Microphone channel 7
2.3 MASTER and MONITOR section 7
2.4 Front panel connectors 7
2.5 XPQ 3D surround effect 7

3. CONNECTIONS 8

4. SPECIFICATIONS 9

5. WARRANTY 10

1. INTRODUCTION

Your purchase of the BEHRINGER PRO MIXER DX052 has put you at the forefront of today's trends in DJ mixing consoles. Numerous features, such as the beat counter and XPQ 3D surround effect, enable you to work in completely new and creative ways. The DX052 is a mixer for professional use, it is extremely easy to operate and it helps you give free rein to your creativity.

Time is tight and if you don't want to be left in the dust, you'd better get moving. To help you along, we have developed an excellent DJ mixing console with the most popular new features and technologies. It is perfectly suited for use in dance clubs or for DJ systems and is sure to deliver tons of pure fun.

Be honest: who really likes to read manuals? We know you want to get started right away, but it is only after reading these instructions that you will fully understand and be able to properly use all the features your DX052 has to offer. Take the time to read everything through!

☞ **The following user's manual is intended to familiarize you with the unit's control elements, so that you can master all the functions. After having thoroughly read the user's manual, store it at a safe place for future reference.**

1.1 Before you get started

1.1.1 Shipment

The PRO MIXER was carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

☞ **Damaged units should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery of the unit. Otherwise, all claims for replacement/repair may be rendered invalid.**

1.1.2 Initial operation

Please make sure the unit is provided with sufficient ventilation, and never place the PRO MIXER on top of an amplifier or in the vicinity of a heater to avoid the risk of overheating.

☞ **Before plugging the unit into a power socket, please make sure you have selected the correct voltage:**

The fuse compartment near the power plug socket contains three triangular markings. Two of these triangles are opposite one another. The voltage indicated adjacent to these markings is the voltage to which your unit has been set up, and can be altered by rotating the fuse compartment by 180°. **ATTENTION: This does not apply to export models that were for example manufactured only for use with 120 V!**

☞ **If you alter the unit's voltage, you must change the fuses accordingly. The correct value of the fuses needed can be found in the chapter "SPECIFICATIONS".**

☞ **Faulty fuses must be replaced with fuses of appropriate rating without exception! The correct value of the fuses needed can be found in the chapter "SPECIFICATIONS".**

Power is delivered via the cable enclosed with the unit. All requiered safety precautions have been adhered to.

☞ **Please make sure that the unit is grounded at all times. For your own protection, you should never tamper with the grounding of the cable or the unit itself.**

1.1.3 Warranty

Please take a few minutes and send us the completely filled out warranty card within 14 days of the date of purchase. You may also register online at www.behringer.com. The serial number needed for the registration is located at the top of the unit. Failure to register your product may void future warranty claims.

1.2 The user's manual

This user's manual has been written in such a way to enable you an overview over the control elements of the unit and offers at the same time detailed information about possible applications. To facilitate quick look-ups, control elements have been described in groups depending on their function. Should you need detailed information about specific topics not covered in this manual, please visit our website at www.behringer.com.

ATTENTION!

☞ **We would like to bring your attention to the fact that extremely loud sound levels may damage your hearing as well as your headphones. Please lower all OUTPUT LEVEL knobs leftwards before powering up the unit.**

2. CONTROL ELEMENTS

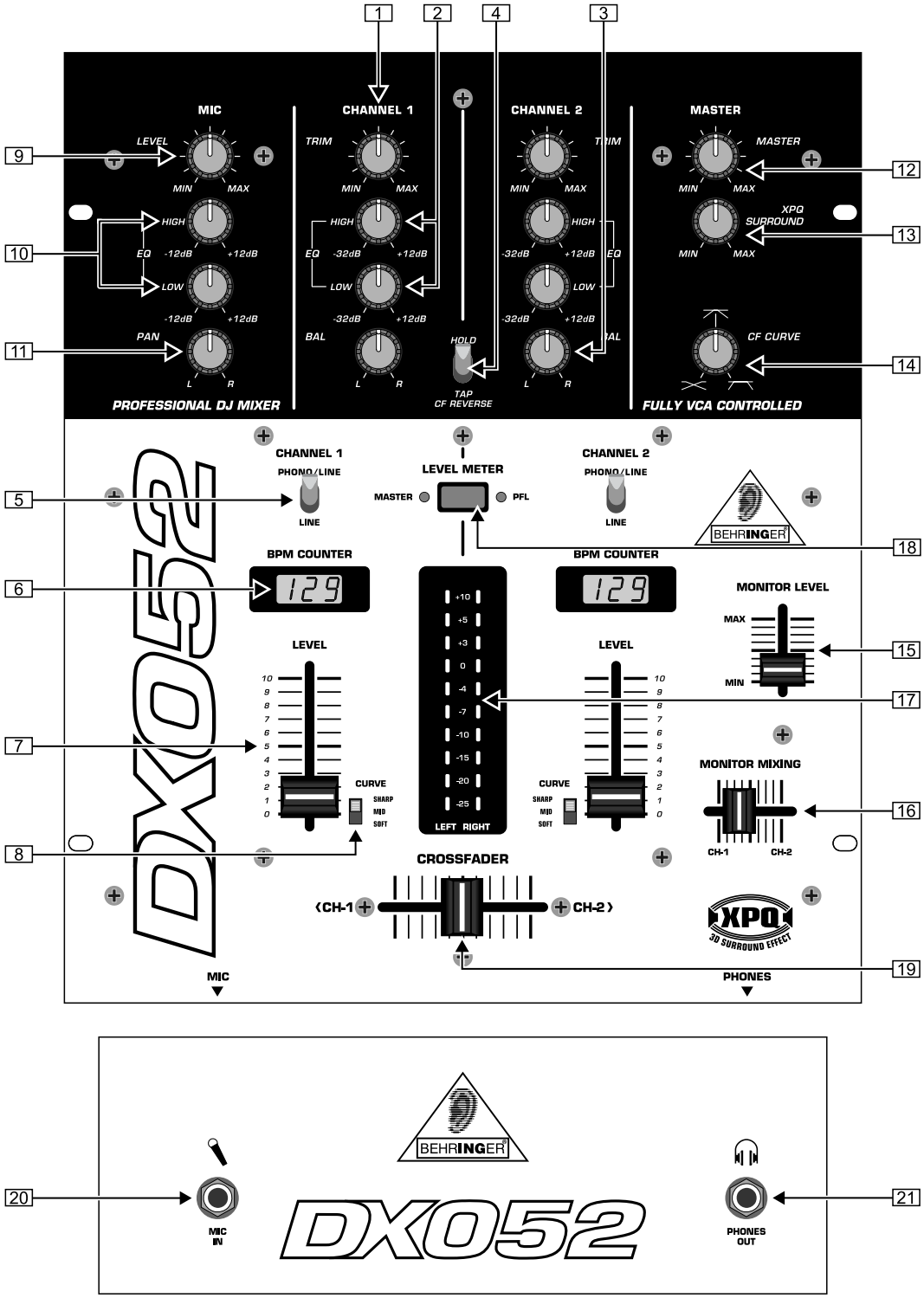


Fig. 2.1: PRO MIXER DX052 control elements

2.1 Stereo channels 1 and 2

[1] The *TRIM* control in the CHANNEL section is used to adjust the level of the input signal.

[2] Each input channel features a 2-band equalizer (*HIGH* and *LOW*) with kill characteristic. Thus, the signal can be attenuated to a much greater extent (-32 dB) than it can be raised (+12 dB). This function can be very useful when, for example, fading a frequency range out of a music track.

☞ **The overall level also depends on the EQ setting. Thus, you should adjust the equalizer before setting the input gain with the TRIM control.**

[3] The input channels come with a *BAL(ANCE)* control which allows you to create the stereo image.

[4] The *CF REVERSE* switch enables you to invert the direction of the CROSSFADER (see [19]), so that you can quickly switch from channel 1 to channel 2. This effect is created by simply pushing the switch down (*TAP*)—as soon as it is released, it returns to its original position and your

crossfade setting is as it was before. Pressed upwards, the switch locks into the reversed position (*HOLD*). To reset it, simply push it downwards.

[5] You determine the input signals with the *PHONO/LINE/LINE* switches. “Phono” is intended for connecting a turntable. “Line” must be selected for all other signal sources (e. g. CD or MD players). Thanks to switch [23] on the rear, the phono input can be switched to line level.

☞ **Never connect devices with line level to the highly sensitive phono inputs! The output level of phono pick-up systems is measured in millivolts, whereas CD players and tape decks have levels measured in volts, i.e. the level from line signals is up to 100 times higher than that of the phono inputs.**

[6] The integrated BPM counter is an extremely useful feature. It ensures smooth transition from one track to the next, making your session an absolute success. It can calculate the various tempos of tracks in BPM (beats per minute). The left display indicates the tempo on channel 1 and the right display shows the tempo on channel 2.

☞ **When no signal is present (or when the signal level is too low), the BPM display shows only dashes. When the signal is present but can not be identified, the display shows 160 BPM and then shows the said dashes. The beat counter then attempts to get another readout. Therefore, “160” BPM is no usable value; rather, it is simply an error message when the signal can not be analyzed.**

[7] Adjust the channel volume using the *CHANNEL* fader.

[8] The *CURVE* switch next to the channel fader enables you to select between three fade modes: SOFT, MID and SHARP. In SOFT mode the fader controls the volume in a linear, continuous manner. Run a track through one of the mixer’s channels and pull the fader down slowly: the volume will decrease gradually. In SHARP mode the fader takes on a more logarithmic effect, reducing the volume faster towards the lower end of the fader range, even if you move the fader smoothly. MID mode is a combination of the SOFT and SHARP modes. Flipping the CURVE switch may cause a sudden change in volume. We recommend not changing this setting while a signal is present.

2.2 Microphone channel

[9] Select the volume of the microphone signal with the *LEVEL* control in the MIC section.

[10] There is a 2-band equalizer (*HI* and *LOW*) in the microphone section. This allows you to fine-tune your voice to adapt perfectly to your sound.

[11] The *PAN(ORAMA)* control determines the position of the microphone signal within the stereo image of the MASTER signal.

2.3 MASTER and MONITOR section

[12] This is the *MASTER* level control to adjust the output volume at the MASTER output (see [28]).

[13] The *XPQ SURROUND* control determines the intensity of the XPQ 3D surround effect (see chapter 2.5).

[14] The *CF CURVE* control in the master section is similar to the CURVE switches in channels 1 and 2 (see [8]). The control allows you to fade between the various crossfader curve modes.

The MONITOR signal is your headphones signal, allowing you to listen to music without affecting the MASTER output signal.

[15] The *MONITOR LEVEL* fader determines the volume of the headphones signal.

[16] The *MONITOR MIXING* fader lets you fade between channels 1 and 2 on your headphones.

[17] The *LEVEL METER* displays the level of the signal selected via [18].

[18] With this switch you determine whether it is the MASTER or the MONITOR signal (PFL) to be indicated on the LEVEL METER. When the *PFL* LED lights up, it indicates the level of the headphones signal.

☞ **In monitor mode, the channel 1 signal is displayed on the left side of the LEVEL METER, and channel 2 on the right.**

[19] The *CROSSFADER* is for crossfading between channels 1 and 2. Like the channel faders, the crossfader section is equipped with a professional 45-mm ULTRAGLIDE fader.

2.4 Front panel connectors

[20] The *MIC IN* connector is the balanced jack input for your dynamic microphone.

☞ **We strongly recommend the use of high-grade cables and connectors for the transmission of audio signals. Inferior quality materials cannot supply acceptable audio quality or corrosion protection.**

[21] The *PHONES OUT* connector enables you to preview tracks (MONITOR signal) on your headphones. Your headphones should have a minimum impedance of 32 Ohms.

2.5 XPQ 3D surround effect

The XPQ 3D surround function is a built-in effect that puts the finishing touch to your music and turns every gig into a real experience. The widening of the stereo base makes for a livelier, more transparent sound. The *XPQ SURROUND* control [13] determines the intensity of the XPQ 3D surround effect.

3. CONNECTIONS

With the exception of the microphone and headphones connectors, all of the DX052’s audio connections are located on the rear panel and supplied as RCA connectors.

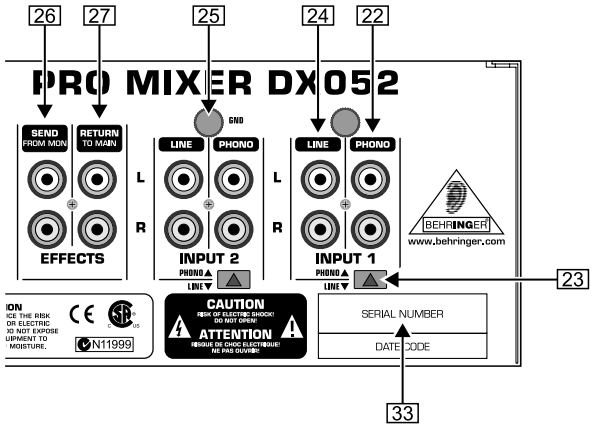


Fig. 3.1: PRO MIXER DX052 rear panel connectors

[22] The *PHONO* inputs for channel 1 and 2 are for connecting a turntable.

[23] With the *PHONO/LINE* switch it is possible to switch the input sensitivity of the PHONO inputs to line level. This allows you to connect a tape deck or a CD player to the PHONO inputs.

24 These are the LINE inputs to connect a tape deck, CD or MD player etc.

25 The *GND* connectors ground the turntables.

26 The DX052 features an integrated effects loop for the connection of an external effects device/sampler. The MONITOR signal is taken at the *SEND* output and routed, for example, to a reverb processor. Thus, the signal at the SEND connector is identical to the headphones signal.

27 The externally processed signal is added to the MASTER output signal via the *RETURN* connectors. The effect signal volume may only be adjusted at the output control of the effects device itself.

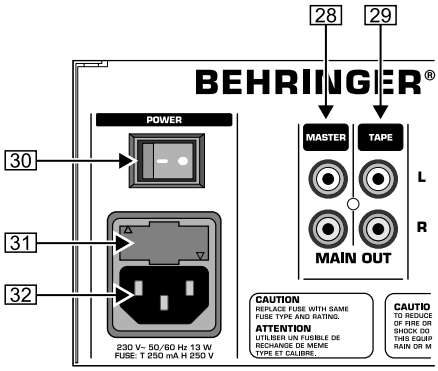


Fig. 3.2: PRO MIXER DXD052 rear panel connectors

28 The *MASTER* output is for connecting to an amplifier and can be adjusted with the MASTER level control.

☞ **Always turn the power amps on last to avoid inrush currents that can easily damage your speakers. And, to avoid sudden and unpleasant surprises for your ears, make sure there is no signal at the DX052 before turning on the power amps. To be sure, slide all the faders to the bottom and switch all controls to the zero position.**

29 Using the *TAPE* output you can record your music by connecting devices such as tape decks, DAT recorders etc. Unlike the MASTER output, the output volume is fixed, making it necessary for you to adjust the input level on the recording device.

30 The *POWER* switch powers the DX052 on. You should always make sure that the POWER switch is in the "Off" position when initially connecting the unit to the mains.

☞ **Please take note: Merely switching the unit off does not mean that it is fully disconnected from the mains. When not using the unit for prolonged periods of time, please unplug the unit's power cord from the power outlet.**

31 *FUSE HOLDER / VOLTAGE SETTING*. Before connecting the unit to the mains, ensure that the voltage setting matches your local voltage. Blown fuses should only be replaced by a fuse of the same type and rating. On some units, the fuses holder can be switched to one of two positions, i.e. 230 V and 120 V. Please note: should you desire to operate the unit outside Europe at 120 V, a higher fuse rating is required.

32 This is the connector for the power cable. This is where the advantage of a sophisticated internal power supply can be seen: the pulse behaviour of each amplifying circuit is mainly determined by the voltage reserves available. Each mixing console is equipped with numerous operational amplifiers (op amps) to process line level signals. Due to limited output of their power supplies, many mixing consoles show signs of "stress" when subjected to heavy loads. But not your DX052: the sound is always clear and transparent.

☞ **To disconnect power from main, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible. If mounting in a rack, ensure that the mains can be easily disconnected by a plug or by an all-pole disconnect switch on or near the rack.**

33 *SERIAL NUMBER*. Please take the time to complete and return the warranty card within 14 days of the date of purchase. Or, simply register online at www.behringer.com.

4. SPECIFICATIONS

AUDIO INPUTS	
Mic	40 dB Gain, electronically balanced input stage
Phono 1 and 2	40 dB Gain, unbalanced inputs
Line 1 and 2	0 dB Gain, unbalanced inputs
Return	0 dB Gain, unbalanced input
AUDIO OUTPUTS	
Master	max. +19 dBu @ +10 dB (Line in)
Tape	typ. 0 dBu
Send	typ. 0 dBu
Phones	max. 180 mW @ 75 Ω / 1% THD
EQUALIZER	
Stereo Low	+12 dB/-32 dB @ 50 Hz
Stereo High	+12 dB/-32 dB @ 10 kHz
Mic Low	+12 dB/-12 dB @ 50 Hz
Mic High	+12 dB/-12 dB @ 10 kHz
GENERAL	
Signal-to-noise ratio	> 87 dBu (Line)
Crosstalk	> 70 dB (Line)
Distortion (THD)	< 0,05%
Frequency response	10 Hz - 55 kHz +0/-3 dB
POWER SUPPLY	
Mains voltages	USA/Canada 120 V~, 60 Hz Europe/U.K./Australia 230 V~, 50 Hz Japan 100 V~, 50 - 60 Hz General export model 120/230 V~, 50 - 60 Hz
Power consumption	13 W
Fuse	100 - 120 V~: **T 500 mA H** 200 - 240 V~: **T 250 mA H**
Mains connection	Standard IEC receptacle
DIMENSIONS/WEIGHT	
Dimensions (H x W x D)	approx. 4 3/10" (109.2 mm) x 10 2/5" (264 mm) x 12 2/5" (315 mm)
Weight	approx. 2.3 kg (5 1/16 lbs)

BEHRINGER makes every effort to ensure the highest standard of quality. Necessary modifications are carried out without notice. Thus, the specifications and design of the device may differ from the information given in this manual.

5. WARRANTY

§ 1 WARRANTY CARD/ONLINE REGISTRATION

To be protected by the extended warranty, the buyer must complete and return the enclosed warranty card within 14 days of the date of purchase to BEHRINGER Spezielle Studiotechnik GmbH, in accordance with the conditions stipulated in § 3. Failure to return the card in due time (date as per postmark) will void any extended warranty claims. Based on the conditions herein, the buyer may also choose to use the online registration option via the Internet (www.behringer.com or www.behringer.de).

§ 2 WARRANTY

1. BEHRINGER (BEHRINGER Spezielle Studiotechnik GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 3 and 4, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.

2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.

3. Warranty claims other than those indicated above are expressly excluded.

§ 3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.

3. Shipments without freight prepaid will not be accepted.

§ 4 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement by BEHRINGER under the terms of this warranty will be repaired or replaced within 30 days of receipt of the product at BEHRINGER.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, potentiometers, keys/buttons and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
- ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- ▲ damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

§ 5 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

§ 6 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

§ 7 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

* Customers in the European Union please contact BEHRINGER Germany Support for further details.

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